



Name: \_\_\_\_\_  
 Mr. Tiénou-Gustafson & Mr. Biellemer  
 Geometry, Period \_\_\_\_\_  
 Due Date: Tue, 6 Jan 2014

HW79 - Quadratics & Resolutions

**Geometry  
Homework**

## NEW YEAR'S RESOLUTION / MID-YEAR CHECK IN

What is your current Geometry grade? (Check PowerSchool if you don't know) \_\_\_\_\_

What is your goal Geometry grade for Semester 1? (Be ambitious but feasible!) \_\_\_\_\_

What steps will you take to reach this goal?

- ☐ Make up missing work ~ List assignments here: \_\_\_\_\_
- ☐ Retake low quiz grade(s) ~ List here: \_\_\_\_\_
- ☐ Work on Khan Academy on skills I struggle with: \_\_\_\_\_
- ☐ Come to study group or office hours ~ List days/times: \_\_\_\_\_
- ☐ Rock the Semester 1 Test! How??? \_\_\_\_\_
- ☐ Others? List here: \_\_\_\_\_

Our 10<sup>th</sup> grade theme is **DEFINE YOUR PRIDE**. Are you proud of our current 10<sup>th</sup> grade Geometry performance (including your grade, your class participation, your work ethic, how you help other students or ask for help, whether you or classmates show a growth mindset, our class culture, and our network interim rankings)? Why &/or why not?

### Now back to work: QUADRATICS! STRUGGLE!!!

SHOW YOUR WORK. If you circle answers without showing how you got them, you will receive a LaSalle.

#### I. FOIL

6. The expression  $(3p - 12)(4p - 1)$  is equivalent to:

- F.  $12p^2 - 51p - 12$ .
- G.  $12p^2 - 51p + 12$ .
- H.  $12p^2 - 20p - 12$ .
- J.  $12p^2 - 20p + 12$ .
- K.  $12p^2 + 12$ .

*Handwritten FOIL work for problem 6:*  
 $(3p \cdot 4p) + (3p \cdot -1) + (-12 \cdot 4p) + (-12 \cdot -1)$

14. The expression  $(3p + 2)^2$  is equivalent to:

- F.  $6p^2 + 4$ .
- G.  $6p^2 + 12p + 4$ .
- H.  $9p^2 + 4$ .
- J.  $9p^2 + 6p + 4$ .
- K.  $9p^2 + 12p + 4$ .

*Handwritten FOIL work for problem 14:*  
 $(3p + 2)(3p + 2)$

7.  $(5r - 3s)(5r - 3s)$  is equivalent to:

- A.  $10r^2 - 30rs + 6s^2$ .
- B.  $10r^2 - 16rs + 6s^2$ .
- C.  $25r^2 - 30rs - 9s^2$ .
- D.  $25r^2 - 30rs + 9s^2$ .
- E.  $25r^2 - 16rs + 9s^2$ .

*Handwritten FOIL work for problem 7:*  
 $(5r \cdot 5r) + (5r \cdot -3s) + (-3s \cdot 5r) + (-3s \cdot -3s)$

15. The expression  $(6r - 7s)(2r + 3s)$  is equivalent to:

- A.  $8r^2 - 10s^2$ .
- B.  $12r^2 - 21s^2$ .
- C.  $12r^2 + 4rs - 21s^2$ .
- D.  $12r^2 + 4rs + 21s^2$ .
- E.  $12r^2 + 32rs - 21s^2$ .

*Handwritten FOIL work for problem 15:*  
 $(6r - 7s)(2r + 3s)$

## II. Solutions (AKA x-intercept, zeros, roots)

1. **Short answer:** What is the **difference** between the solutions to a quadratic equation and the constants in the binomial factors of a quadratic equation? Explain in words and give an example.

a) What do the solutions represent?

b) Find the solutions to  $(x+5)(x+2)=0$ . Compare solutions to constants (+5 and +2)

3. Which of the following is a solution to the equation  $b^2 + 6b + 8 = 0$ ?

A. -8  
B. -2  
C. -1  
D. 2  
E. 4

5. Which of the following is a solution to the equation

$z^2 + 8z + 12 = 0$   
A. -4  
B. -2  
C. 2  
D. 6  
E. None of the above

4. Which of the following is a solution to the equation

~~$y^2 - 3 - 6 = 0$~~   $y^2 - 9 = 0$   
F. -9  
G. -2  
H. 2  
J. 3  
K. 9

6. Which of the following is a solution to the equation

$p^2 - 15p = 100$ ?  $p^2 - 15p - 100 = 0$   
F. -20  
G. 5  
H. 10  
J.  $\sqrt{115}$   
K. 20

## III. Quadratics & Area

→ All sides are equal

19. The length of a side of a square is represented as  $(5x - 2)$  inches. Which of the following represents the area of the square, in square inches?

A.  $10x^2 - 10x + 4$   
B.  $10x^2 + 10x - 4$   
C.  $25x^2 - 20x - 4$   
D.  $25x^2 - 20x + 4$   
E.  $25x^2 + 20x + 4$

$$(5x - 2) \cdot (?) =$$

20. The length of a side of a square is represented as  $(3y - 8)$  inches. Which of the following represents the area of the square, in square inches?

F.  $9y^2 - 48y - 64$   
G.  $9y^2 - 48y + 64$   
H.  $9y^2 + 64$   
J.  $9y^2 + 48y - 64$   
K.  $9y^2 + 48y + 64$

→ All sides are equal

## IV. Using Solutions

$$x^2 - 3x - 10 = 0$$

Use the quadratic equation  ~~$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$~~  to answer the questions below:

1. What are the binomial factors?

$$(x-5)(x+2)$$

2. What are the solutions?

3. How can you prove these are the solutions? Do it!

4. What is the sum of the solutions?

5. What is the product of the solutions?

6. What is the absolute value of the difference of the solutions?

7. What are the two possible quotients of the solutions?

